confidence or comfort with these specific tasks on the end-of-semester questionnaire using a modified five-point Likert Scale for thirteen items. The questionnaire was designed to allow students to reflect on their confidence/comfort level at the beginning of the semester.
Preliminary data was collected from thirteen of the twenty enrolled students and analyzed using Chi-squared tests as the statistical tool. The demographics of these thirteen students paralleled the demographics of the overall diversity of the GGC student population in terms of gender, race and ethnicity with the exception of percentage employed full time and age. Overall, the general trend in the data from the thirteen students revealed that student confidence/comfort in their ability to complete each of the tasks increased from the beginning of the semester to the end when the means and the ranges are compared. This makes sense as the intervention included specific assignments related to these tasks. We should consider including these types of tasks in the Biology major curriculum at GGC. I will present the final data analysis on the full sample of twenty students.

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The great ideas of biology: Exploration through experimentation in an undergraduate lab course.

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We developed an introductory laboratory course to provide a visceral experience that aims at getting students truly excited about scientific study of the living world. Our vehicle to do that was to focus on what Paul Nurse dubbed “the great ideas of biology” rather than an approach to biology that celebrates specific factual knowledge. To that end, we developed eight diverse experimental modules, each of which highlights a key biological concept and gives an opportunity to use theory to generate testable hypotheses, to perform high quality measurements to test those hypotheses (some of which are clearly wrong), and to perform sophisticated computational data analysis. Some modules incorporate modern microscopy and computational techniques in classic experiments, such as bacterial growth and the Luria-Delbrück experiment, while others address current research questions using methods like optogenetics and single molecule measurements. We have offered the course eight times, and in the most recent edition of the course, we conducted pre/post-course interviews and attitude surveys. The students, both bio and non-bio majors alike, reported being captivated by *seeing* life occur across the broad range of experiments and model organisms. We observed demonstrable development of their curiosity and enthusiasm for biology. Additionally, we found that prior to the course, students had only vague notions about what it means to make quantitative biological measurements and interpret them. They completed the course with a clearer understanding of scientific inquiry in biology and the skills and confidence to actually perform and interpret measurements in living systems.